

EXHIBIT 5



RICHARD D. WESEL, PhD - 12/1/2022

Page 1	Page 3
<p>IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION</p> <p>TQ DELTA, LLC, § Plaintiff, § JURY TRIAL DEMANDED VS § COMMScope HOLDING § COMPANY, INC., § COMMScope INC., ARRIS § Civil Action INTERNATIONAL LIMITED, § 2:21-cv-310-JRG ARRIS GLOBAL LTD., § (Lead Case) ARRIS US HOLDINGS, § INC., ARRIS SOLUTIONS, § INC., ARRIS TECHNOLOGY, § INC., and ARRIS § ENTERPRISES, LLC, § NOKIA CORP., NOKIA § SOLUTIONS AND NETWORKS § Civil Action OY, and NOKIA OF § 2:21-cv-309-JRG AMERICA CORP § (Member Case) Defendants §</p> <p>ORAL AND VIDEOTAPED DEPOSITION OF RICHARD D. WESEL, PhD DECEMBER 1, 2022</p> <p>REPORTED REMOTELY</p>	<p>1 APPEARANCES 2 (All appearing remotely via videoconference) 3 FOR THE PLAINTIFF: 4 CHRISTIAN HURT, ESQ 5 THE DAVIS FIRM, PC 6 213 N. Fredonia Street, Suite 230 7 Longview, Texas 75601 8 903 230 9090 9 churt@bdavisfirm.com 10 11 FOR THE COMMScope DEFENDANTS: 12 13 ANDREW ONG, ESQ 14 GOODWIN PROCTER LLP 15 601 Marshall Street 16 Redwood City, California 94063 17 650 752 3100 18 aong@goodwinlaw.com 19 20 REX MANN, ESQ 21 MARISA C. THOMPSON, ESQ 22 WINSTON & STRAWN LLP 23 2121 N. Pearl Street, Suite 900 24 Dallas, Texas 75201 25 214 453 6412 rmann@winston.com</p> <p>ALSO PRESENT: MR. TREY SOLIS - VIDEOGRAPHER AND EXHIBIT TECH</p>
Page 2	Page 4
<p>1 Oral and videotaped deposition of Richard D. 2 Wesel, PhD, produced as a witness at the instance of 3 the Plaintiff and duly sworn, was taken in the above 4 styled and numbered cause on Thursday, 5 December 1, 2022, from 11:08 a.m. to 3:29 p.m., 6 before Rene N. White, CSR, CRR, RPR in and for the 7 State of Texas, reported by computerized stenotype 8 machine, remotely via Zoom videoconference platform, 9 pursuant to the Federal Rules of Civil Procedure and 10 any provisions stated on the record herein. 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p>1 INDEX 2 3 PAGE 4 APPEARANCES 3 5 RICHARD D. WESEL, PHD 6 EXAMINATION 7 BY MR. HURT 5 8 9 ERRATA PAGE 94 10 ACKNOWLEDGMENT OF DEPONENT 95 11 REPORTER'S CERTIFICATION 96 12 13 EXHIBITS 14 NO DESCRIPTION PAGE 15 Exhibit 1 Opening Expert Report of 16 Dr. Richard Wesel On the 17 Invalidity of the Asserted 18 Claims of the Family 3 19 Patents; 740 pages 7 20 Exhibit 2 US Patent Number 7,269,208 21 B2; COMMScope002299 to 22 COMMScope002312 40 23 Exhibit 3 US Patent Number 6,707,822 24 B1; COMMScope002515 to 25 COMMScope002523 46</p>

1 (Pages 1 to 4)

RICHARD D. WESEL, PhD - 12/1/2022

Page 5	Page 7
<p>1 THE VIDEOGRAPHER: Today's date is 2 December 1st, 2022. The time is approximately 3 11:08 a.m. We're on the record. 4 RICHARD D. WESEL, PhD, 5 having been duly sworn, testified as follows: 6 EXAMINATION 7 BY MR. HURT: 8 Q. Good morning, Dr. Wesel. 9 A. Good morning. 10 Q. You're -- you've been retained by 11 CommScope as an expert in this -- this case; is that 12 right? 13 A. That's correct. 14 Q. And you were also retained by Nokia; is 15 that -- is that right? 16 A. Yes, that's correct. 17 Q. But for -- for the purposes of today, the 18 only opinions that are left in this case for -- for 19 you are the ones relating to invalidity of the 20 Family 3 patents on the -- for -- for CommScope; is 21 that correct? 22 A. Yes, that's correct. 23 Q. Okay. When were you first retained by -- 24 by CommScope, if you remember? 25 A. Oh, I don't remember. Do you want me to</p>	<p>1 your bills between -- between -- you know, for those 2 two sets of patents? 3 A. Well, for work -- I guess, in general, 4 for work that was only for Nokia, I billed Nokia. 5 For work that was only for CommScope, I billed 6 CommScope. And for work that was common for both 7 parties, I split the expenses between the two 8 companies. 9 Q. Okay. And you submitted some 10 declarations in connection with some inter partes 11 review petitions that Nokia filed, is that right, 12 for Family 3? 13 A. Yes, that's correct. 14 Q. Okay. And I assume based on your 15 practice, you just told me, that -- that you would 16 have just billed Nokia only for that work; is that 17 right? 18 A. That's correct. 19 MR. HURT: Okay. We can pull it up 20 just so we have it marked, Trey, the Exhibit 1 I 21 sent you, the Family 3 Wesel opening expert report. 22 And that will be Exhibit 1. 23 (Exhibit 1 marked.) 24 BY MR. HURT: 25 Q. And I'll ask you some questions,</p>
Page 6	Page 8
<p>1 try to estimate or something like that? 2 Q. Well, let me ask -- ask you this. I 3 mean, was -- was it with -- was it sometime this 4 year in 2022, or -- or was it last year? 5 A. Yeah, it's been within the last one or 6 two years, you know. I don't remember the exact 7 month, yeah. 8 Q. Okay. And what -- do you remember about 9 when you were retained by Nokia? 10 A. I remember that -- what I remember is 11 that both -- it was a strange coincidence that both 12 parties contacted me, like, within 24 hours of each 13 other. 14 Q. Okay. 15 A. So it was about the same time. 16 Q. Okay. And for your work in this case, do 17 you bill CommScope and Nokia separately? 18 A. Yes. 19 Q. How -- how does that work for -- let me 20 ask it this way. 21 Do you divide it up any way for the -- 22 the invalidity reports? So, for example, your 23 Family 3 report covers some patents that were for 24 CommScope and some patents that were for Nokia. 25 How -- how would you divide up the --</p>	<p>1 Dr. Wesel. And you'll have your report open with 2 you on the -- your own PDF copy and then also one 3 that's -- that's marked for the record. Okay? 4 A. Okay. 5 Q. About how much time did you spend on -- 6 on this report? 7 A. I don't recall. It was -- I mean, it was 8 a significant amount of time. 9 Q. Okay. Would you say more than -- I 10 assume more than a hundred hours? 11 A. I'm not sure whether it was more than 100 12 hours or not. I think that's the right order of 13 magnitude. 14 Q. Okay. About when did you start working 15 on your invalidity report for the Family 3 patents? 16 A. Soon after I was contacted. 17 Q. And for the Family 3 patents, your 18 opinion that -- is that those claims are invalid in 19 the view of a few obviousness combinations, one 20 being Mazzoni with VDSL1, Mazzoni with LB-031, and 21 Fadavi-Ardekani in combination with VDSL1; is that 22 right? 23 MR. ONG: Objection, form. 24 THE WITNESS: Pardon? 25 MR. ONG: Sorry. I said "objection,</p>

2 (Pages 5 to 8)

RICHARD D. WESEL, PhD - 12/1/2022

Page 29	Page 31
<p>1 there was a summary judgment, yes, I -- I -- I was 2 careful in my analysis. But as I say in my report, 3 there are a variety of things. 4 Even the opposing expert, Dr. Cooklev, in 5 one of his earlier reports, agreed that, you know, 6 the interleaver and deinterleaver use -- you know, 7 that a portion of the memory is used for both 8 interleaving and deinterleaving. 9 BY MR. HURT: 10 Q. You mentioned that Dr. Cooklev in one of 11 his reports agreed that a portion of memory is used 12 for interleaving and deinterleaving -- 13 A. That's in -- 14 (Simultaneous crosstalk.) 15 THE COURT REPORTER: Excuse me. I'm 16 sorry. I did not catch what you said, Dr. Wesel. 17 A. I -- I shouldn't have spoken before 18 Christian completed his question. 19 I was just directing to paragraph 1400 of 20 my report. 21 BY MR. HURT: 22 Q. Okay. I see that. Thank you. 23 And I -- I know you've been deposed 24 before, Dr. Wesel, and I don't need to go over all 25 the ground rules with it. And it may have been a</p>	<p>1 combinations, Mazzoni combined with LB-031, Mazzoni 2 combined with VDSL1, and Fadavi-Ardekani combined 3 with VDSL1, did you consider any other references 4 for disclosing shared memory between the interleaver 5 and deinterleaver? 6 A. Oh, well, there is a -- in my -- in the 7 background section of my report, yes, for that 8 specific question, like, are there other references 9 that describe a shared memory between an interleaver 10 and a deinterleaver. 11 I have a section on VIII(D) called Shared 12 Memory where I go over a variety of earlier 13 references that use shared memory sometimes for 14 interleaving and deinterleaving. 15 Q. Okay. Are you relying on those 16 references for your -- let me ask it this -- so it's 17 clear. 18 Are -- are you relying on those 19 references -- the background references in 20 Section VIII(D) as part of your invalidity opinion 21 that the claims are -- of the Family 3 patents are 22 rendered obvious? 23 A. Well, that's -- let me try to give a 24 careful answer. So that section is in my invalidity 25 report. It is definitely part of my invalidity</p>
Page 30	Page 32
<p>1 little while, and it's also probably unique to Zoom. 2 But given some -- and given some of the technical 3 subject matter, I'll try to be real careful not to 4 speak over you and we'll just have to be -- be sure 5 so the court reporter gets everything not to speak 6 over each other. All right? 7 A. Understood. 8 THE WITNESS: I apologize, Rene. 9 THE COURT REPORTER: That's okay. 10 BY MR. HURT: 11 Q. Did you consider any other references 12 besides Mazzoni and Fadavi-Ardekani for disclosing 13 the ability to -- to have shared memory between an 14 interleaver and deinterleaver? 15 MR. ONG: Objection, form. 16 A. I think, as I said before, I considered 17 the two combination -- or that each of the 18 combinations together and go through each element. 19 So what I've shown is that the -- in each of the 20 combinations, each combination teaches a shared 21 memory. 22 BY MR. HURT: 23 Q. Okay. Well, let me ask you -- ask you 24 this question again. I wasn't trying to ask 25 something to trip you up. But other than the three</p>	<p>1 opinion. That's different from saying that those 2 references are official grounds for my opinion. 3 But they speak to the point that it's not 4 correct to say that shared memory was hugely 5 innovative at the time of the invention or that it 6 had never been used for -- to have a shared memory 7 in a communication system before, things like that. 8 So I think it's extremely relevant to my 9 opinion, but those specific references weren't, you 10 know, the official grounds. Does that make sense? 11 Q. I think I understand your -- your answer. 12 And maybe I'll make -- make sure I understand it. 13 So in terms of the official grounds, you're not 14 opining that Mazzoni combined with these background 15 references combined with VDSL1 is an -- is an 16 obviousness combination. Your obviousness 17 combinations are Mazzoni with VDSL1, Mazzoni with 18 LB-031, Fadavi-Ardekani with VDSL1. But these 19 references are for the general point that -- that -- 20 that shared memory was being used in -- in -- prior 21 to the Family 3 patents. 22 Is that -- is that a fair recitation? 23 MR. ONG: Objection, form. 24 A. Yes. 25 BY MR. HURT:</p>

8 (Pages 29 to 32)

RICHARD D. WESEL, PhD - 12/1/2022

Page 33	Page 35
<p>1 Q. And to -- let me make sure I understand</p> <p>2 your opinions a little bit on -- on shared memory</p> <p>3 since that has -- has come up. My -- my</p> <p>4 understanding from reading your -- your report,</p> <p>5 Dr. Wesel, is that your opinion is that Mazzoni and</p> <p>6 Fadavi-Ardekani each disclose shared memory as the</p> <p>7 Court has construed that term. Is -- is that right?</p> <p>8 A. Yes, that's correct.</p> <p>9 Q. Does LB-031 disclose a shared memory as</p> <p>10 the Court's construed that term?</p> <p>11 A. I'm not -- I don't believe that I show</p> <p>12 that LB-031 explicitly discloses a shared memory.</p> <p>13 Q. Okay. And is your answer the same for</p> <p>14 VDSL1?</p> <p>15 A. Yes.</p> <p>16 Q. Okay. And then my understanding is</p> <p>17 that -- let me ask this first.</p> <p>18 There's also an element of the claim that</p> <p>19 relates to an initialization -- well, let me -- I'm</p> <p>20 probably paraphrasing it wrong. I probably want to</p> <p>21 be precise.</p> <p>22 But there's an element of the claims that</p> <p>23 relates to a message that -- that -- that specifies</p> <p>24 or indicates an amount of memory.</p> <p>25 Are you familiar with those limitations?</p>	<p>1 Q. Why would transmitting and receiving</p> <p>2 initialization messages setting parameters have been</p> <p>3 necessary for Mazzoni?</p> <p>4 A. Well, I believe I discussed that</p> <p>5 in the -- in the technology background section when</p> <p>6 I discussed configuration messages like, just to</p> <p>7 summarize -- let me go back to that -- let's see.</p> <p>8 Basically, these communication devices at</p> <p>9 the time, that was the common practice for them to</p> <p>10 exchange initialization messages, as I discussed in</p> <p>11 the technology background section and in other</p> <p>12 places in my report, which we can go to if I can</p> <p>13 look for them. But that's the -- that's the basic</p> <p>14 answer.</p> <p>15 Q. Okay. Let me ask you this. You</p> <p>16 mentioned it was common practice to have these types</p> <p>17 of messages -- I believe you called them</p> <p>18 initialization messages. But would Mazzoni require</p> <p>19 the use of initialization messages?</p> <p>20 A. Yes.</p> <p>21 MR. ONG: Objection, form.</p> <p>22 A. Oh.</p> <p>23 MR. ONG: Sorry. Objection, form.</p> <p>24 A. Yes, I believe it would.</p> <p>25 BY MR. HURT:</p>
Page 34	Page 36
<p>1 MR. ONG: Objection, form.</p> <p>2 A. Yes.</p> <p>3 BY MR. HURT:</p> <p>4 Q. And my understanding is that for those --</p> <p>5 that message limitations, your opinion is that</p> <p>6 LB-031 and VDSL1 each disclose the message elements.</p> <p>7 Is that right?</p> <p>8 A. That's -- that is correct.</p> <p>9 Q. Okay. Does -- does Mazzoni disclose the</p> <p>10 claimed message elements?</p> <p>11 A. Well, for -- if we take a look at my</p> <p>12 report in paragraph 557, for example, which is on</p> <p>13 PDF page 263.</p> <p>14 Q. Okay.</p> <p>15 A. I discuss how a person of ordinary skill</p> <p>16 in the art would have understood that to implement</p> <p>17 the embodiments disclosed in Mazzoni, transmitting</p> <p>18 and receiving initialization messages would have</p> <p>19 been necessary.</p> <p>20 Q. And so this is on PDF page 263, paragraph</p> <p>21 557?</p> <p>22 A. That's correct.</p> <p>23 MR. HURT: Mr. Solis, if you don't</p> <p>24 mind going to that page so we have it on the screen.</p> <p>25 BY MR. HURT:</p>	<p>1 Q. Okay.</p> <p>2 A. So as I discuss in the technology</p> <p>3 background section and elsewhere in the report, the</p> <p>4 two transceivers have to use the same communication</p> <p>5 parameters for all the -- you know, not only for</p> <p>6 interleaver, but certainly for interleaver, but also</p> <p>7 Reed-Solomon coding and many other things that are a</p> <p>8 variety of choices.</p> <p>9 Both transceivers have to use the same</p> <p>10 choices or they won't work well together. And those</p> <p>11 choices are made in the context of the specific</p> <p>12 channel that they're operating over. And so the</p> <p>13 initialization process learns the channel and then</p> <p>14 exchanges messages about the configuration</p> <p>15 appropriate to the specific channel.</p> <p>16 Q. And can you -- you -- let me ask -- ask</p> <p>17 this.</p> <p>18 Is the support for -- for Mazzoni</p> <p>19 requiring initialization messages where you've cited</p> <p>20 here column -- in paragraph 557 in column 5:21</p> <p>21 through 24?</p> <p>22 A. I think that's part of the support. But</p> <p>23 I'm -- it's really an inherency situation, you know.</p> <p>24 It's inherent to this communication device that it's</p> <p>25 going to exchange those configuration messages.</p>

9 (Pages 33 to 36)

RICHARD D. WESEL, PhD - 12/1/2022

Page 37	Page 39
<p>1 This is the -- the Column 5:21 to 24 is talking 2 about how I'm going to modify the parameters. The 3 fact that it can modify those parameters means that 4 it is going to choose different parameters, but it 5 has to choose the same I, M -- I prime and M prime, 6 as the other transceiver, and so it can't just 7 change its parameters without doing exactly what the 8 other transceiver is doing.</p> <p>9 Q. And -- and in your --</p> <p>10 A. As I say --</p> <p>11 Q. Oh, go ahead. Sorry. Continue, 12 Dr. Wesel. I didn't mean to cut you off. So you 13 said as I said?</p> <p>14 A. So going to the end of paragraph 557, a 15 POSA would have understood that initialization 16 protocols to agree on the parameters M and I used by 17 both the operator and user transceivers would have 18 preceded the delivery of the M and I parameters to 19 the MCD. That's what I was just describing.</p> <p>20 And such a protocol requires both 21 transceivers to understand the other -- the 22 limitations of the other transceiver. So that's a 23 second issue.</p> <p>24 These parameters have to be appropriate 25 to the channel, and the two transceivers are going</p>	<p>1 fourth and fifth line. "Whose memory allocation can 2 be reconfigured in accordance with the bit rate 3 actually processed by the send/receive modem." It's 4 actually referring -- I know it's not explicitly 5 saying there's an initialization message, but how do 6 these -- how would it know the bit rate actually 7 processed by the send/receive modem, which any 8 POSITA knows depends on the actual channel 9 characteristics which aren't learned until the two 10 devices are hooked up and talking to each other.</p> <p>11 So it -- there's a lot of context here 12 that -- that supports, you know, the fact that these 13 devices are going to exchange configuration messages 14 to figure out what that actual bit rate is going to 15 be and then reconfigure their memory allocation, 16 their interleaver, deinterleaver parameters 17 according to what they've decided to do.</p> <p>18 BY MR. HURT:</p> <p>19 Q. I think I understand. 20 Are you aware that the Mazzoni 21 references -- discusses a technician?</p> <p>22 A. How about if we go ahead and pull up the 23 Mazzoni reference?</p> <p>24 Q. Sure. 25 MR. HURT: So, Trey, this document</p>
Page 38	Page 40
<p>1 to learn the channel together through, like -- like, 2 a channel analysis phase, and then they are going to 3 make sure that they agree on parameters not only 4 that are appropriate to the channel, but also that 5 don't exceed the limitations of either transceiver.</p> <p>6 For example, I can't use a value of M 7 larger than the value of M the other transceiver can 8 support. And so that's why these configuration 9 messages are just inherently required in this type 10 of system.</p> <p>11 Q. Would -- would you agree with me, 12 Dr. Wesel, that the Mazzoni reference does not 13 expressly disclose the initialization messages?</p> <p>14 A. It -- it doesn't talk explicitly about 15 the initialization process, but it does, for 16 example, in paragraph 643 of my report, it talks 17 about the memory allocation can be reconfigured in 18 accordance with the bit rate actually processed by 19 the send/receive modem.</p> <p>20 So -- well, let me give Trey a chance to 21 bring that up.</p> <p>22 THE WITNESS: That's on -- on PDF 23 page 301.</p> <p>24 A. So it says there -- if we -- if you go 25 down, like, into the -- like, the fifth -- the</p>	<p>1 is -- let me give you the number here. It is 2 COMMScope002299. And it is US Patent 3 Number 7,269,208 to Mazzoni, et al. That will be 4 Exhibit 2. And if you could send that around in the 5 chat so Dr. Wesel can open it natively.</p> <p>6 A. Do you mind if I just pull up my own copy 7 to save us a little time?</p> <p>8 BY MR. HURT:</p> <p>9 Q. I don't. I mean, this is the Bates 10 number that's cited in your report.</p> <p>11 A. Yeah.</p> <p>12 Q. So it should -- it should be the exact 13 same document.</p> <p>14 (Exhibit 2 marked.)</p> <p>15 BY MR. HURT:</p> <p>16 Q. Let me know when you have it up.</p> <p>17 A. I do have it up. Yes.</p> <p>18 Do you mind -- we don't have to go off 19 the record, but I'd just like to refill my water 20 glass. I could be back in 30 seconds.</p> <p>21 Is that okay or not okay?</p> <p>22 Q. Sure. Please do that. We can stay on 23 the record.</p> <p>24 EXHIBIT TECH: Christian, are we 25 going to a specific page?</p>

10 (Pages 37 to 40)